We claim:

1. A fungus *Aspergillus sp.* deposited in the Microbial Type Culture Collection and Gene bank (MTCC) of Institute of Microbial Technology, Chandigarh, India, under the accession number MTCC 5102.
2. A fungus as claimed in claim 1, wherein the said fungi is:
   a) a deuteromycete fungus;
   b) it appears granular, light yellow-green to deep yellow-green in color in malt extract agar plate;
   c) conidiophores are uni-seriate, conidial heads are globose and echinulate, and
   d) grows in the sea water and distilled water with carbon and nitrogen source in a pH range of 7.0-9.0 and temperature range of 5^0 to 30^0 C.
3. The fungus claimed in claim 1, wherein it can be grown in distilled water containing carbon and nitrogen source with pH of about 7.0 and temperature of about 30^0C
4. The fungus claimed in claim 1, wherein it can be grown in seawater containing carbon and nitrogen source with pH of about 9.0 and temperature of about 5^0C.
5. A low temperature active alkaline protease enzyme.
6. A protease enzyme as claimed in claim 5, wherein, the said enzyme is active in the pH range of 6.0 to 11.0.
7. A protease enzyme as claimed in claim 6, wherein the most preferred pH is about 10.
8. A protease enzyme as claimed in claim 5, wherein, the said enzyme shows activity within a range of 15°C to 60°C.
9. A protease enzyme as claimed in claim 5, wherein the enzyme shows 100% activity at about 42-47^{0}C.
10. A protease enzyme as claimed in claim 5, wherein, the said enzyme is thermo-stable within temperature range of 40^0C to 50°C.
11. A protease enzyme as claimed in claim 5, wherein, the maximum thermo-stability was obtained at about 43-47°C.
12. A protease enzyme as claimed in claim 5, wherein, the said enzyme shows maximum activity with an incubation period of 30 to 60 minutes.
13. A protease enzyme as claimed in claim 5, wherein the said enzyme shows increased activity with increasing concentration of enzyme.

14. A protease enzyme as claimed in claim 5, wherein, the said enzyme shows maximum activity at a substrate concentration of 1.5% to 2.0%.

15. A protease enzyme as claimed in claim 5, wherein, the said enzyme produced by the said fungus is serine protease.

16. A process for producing low temperature alkaline protease enzyme from fungal strain MTCC 5102, said process comprising the steps of:

a) growing MTCC 5102 in water as culture medium containing malt extract and a nitrogen source to obtain fungal mat;

b) macerating the fungal mat to obtain a starter culture;

c) adding the starter culture to the experimental medium with a pH range of 7.0 to 9.0;

d) allowing the culture to grow for 4 to 6 days as shallow static culture, and

e) filtering the cell free clear supernatant solution obtained from step (d) to obtain alkaline protease.

17. The process as claimed in claim 16, wherein the fungus *Aspergillus sp.* bearing international deposition number MTCC 5102 having the following characteristics:

a) a deuteromycete fungus;

b) it appears granular, light yellow-green to deep yellow-green in color in malt extract agar plate;

c) conidiophores are uni-seriate, conidial heads are globose and echinulate, and

d) grows in the sea water and distilled water with carbon and nitrogen source in a pH range of 7.0-9.0 and temperature range of 5^0 to 30^0 C.

18. The process as claimed in claim 16, wherein the fungus can be grown in distilled water containing carbon and nitrogen source with pH of about 7.0 and temperature of about 30^0C.

19. The process as claimed in claim 16, wherein the said fungus can be grown in seawater containing carbon and nitrogen source with pH of about 9.0 and temperature of about 5^0C.

20. A process as claimed in claim 16, wherein the culture media is water mixed with about 0.3% peptone and about 2.0% of malt extract.

21. A process as claimed in claim 16 (c), wherein, the experimental medium comprising Czapek Dox broth to which added glucose or cellulose at a concentration of 1% (w/v),

casein, spray-dried dairy whitener, soybean meal, molasses or corn steep liquor independently at 1%.

22. A method of using a low temperature-active alkaline protease as detergent additive, for dehairing of hides, in food industries, for processing of waste feathers, recovery of silver from gelatine-coated X-ray films and treatment of industrial and domestic wastes and other similar applications wherever required by applying/treating a fabric, hide, food materials, feathers, x-ray films and industrial and domestic wastes with the said alkaline protease.